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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/684,103

10/05/2000

Douglas U. Mennie

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CUMMINS-ALLISON CORP.

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EXAMINER

SHAPIRO, JEFFERY A

ART UNIT

PAPER NUMBER

3653

DATE MAILED: 02/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/684,103	Applicant(s) MENNIE ET AL.	
	Examiner Jeffrey A. Shapiro	Art Unit 3653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-29, 78-89 and 146-149 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-29, 78-89 and 146-149 is/are rejected.
- 7) ☒ Claim(s) 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 21 is objected to because of the following informalities: in line 2, the word "counties" appears to be "countries". Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 7-12, 14-29, 78-89, and 146-149 are rejected under 35 U.S.C. 103(a) as being unpatentable over McInerny (US 5,761,089) in view of Crane et al (US 5,151,607) and further in view of Shigeno (US 5,289,122).

McInerny discloses a high-speed currency bill evaluation device (10) that receives a stack of bills in hopper/input receptacle (12), an output receptacle (20 and 68) that receives bills after processing, a transport mechanism as shown in figure 2a, a magnetic scanhead (86), adjacent to a transport path, a cpu processor (302), rom and ram memories (318, 319), and optical sensors (80, 82, 84). McInerny also discloses comparing sampled data with stored master data, the cpu processor then determining based upon set threshold values whether the bill is authentic or not. See col. 23, lines

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23-34, for example. McInerny further discloses handling multiple currencies from other countries as well as other documents such as food stamps. See col. 1, lines 29-40.

McInerny discloses, as described in Claim 9, that the scanhead is disposed transverse to the document transport path. See figure 4.

McInerny also discloses, as described in Claim 12, that the bills are transported so that a long edge of the bill is the leading edge of the bill.

McInerny does not expressly disclose, but Crane discloses that currency bills contain embedded magnetic security threads, and that both optical and metal/magnetic detectors are used to determine presence and location of a security thread. See Crane, col. 1, lines 22-55, col. 2, lines 1-15 and col. 4, line 43-col. 5, line 60. Note also that Crane in col. 1, lines 29-33 states that position of the "metallized thread" corresponds to denomination in U.S. currency.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to have used both a magnetic detector and an optical sensor and associated circuitry, as taught by Crane, to determine presence of a security thread as well as its position on bills processed by McInerny's bill processing device.

The suggestion/motivation to do so would have been to prevent counterfeiting of bills. See Crane, col. 1, lines 29-39.

McInerny does not expressly disclose, but Shigeno discloses a magnetic scanhead (10) that comprises several closely spaced magnetic sensors (12). Shigeno also appears to disclose that the several magnetic sensors are about 5mm or less distance apart from each other. See figures 1-5 noting that the pitch Pa and Pb

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correspond to distances between magnetic sensors based upon the coarseness or fineness of the waveform being detected. See also col. 2, lines 6-21. It therefore would have been obvious to vary this pitch value accordingly.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to have used Shigeno's scanhead comprised of several closely spaced magnetic sensors in place of the McInerny's scanhead.

The suggestion/motivation for doing so would have been to detect both course and fine magnetic patterns.

In light of the teaching of Crane that U.S. currency contains metallized security threads whose position correspond to a particular denomination, and that optical and magnetic detectors are used in conjunction with each other to determine currency denomination and authenticity based in part on the detection of the security thread and its position on the bill, it would have been obvious to one of ordinary skill in the art to have used appropriate optical and magnetic detectors and algorithms and circuitry in McInerny's bill processing device to determine presence and position of a security thread within a currency bill.

Shigeno further provides the motivation and teaching to use closely spaced magnetic detectors so as to better detect both course and fine magnetic patterns.

Claims 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over McInerny (US 5,761,089) in view of Crane et al (US 5,151,607) and further in view of Shigeno (US 5,289,122) and still further in view of Winkler (US 5,394,992).

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McInerny discloses the bill processing apparatus described above. McInerny does not expressly disclose running a bank note sorting device at various speeds. See Winkler, col. 1, lines 31, 32, col. 5, lines 53-68 and col. 6, lines 1-25, in which it is stated that speeds of up to 2000 documents per minute are achieved.

At the time of the invention, it would have been logical for one ordinarily skilled in the art to have caused the device of McInerny to run at various speeds up to 2000 documents per minute, since McInerny discloses a device capable of high-speed operation at col. 1, lines 40-45. Therefore, one ordinarily skilled in the art would have been motivated to run McInerny's device at an optimal speed, such as 800 or more documents per minute, that would produce the best throughput of bills under the particular processing conditions that batch of bills would require.

Response to Arguments

4. Applicant's arguments with respect to Claims 7-12, 14-29, 78-89, and 146-149 have been considered but are moot in view of the new ground(s) of rejection.

Applicant asserts that McInerny does not teach detecting "a magnetic security thread within a bill. This is accurate. However, Crane discloses detecting a security thread embedded within a bill. Further, even if McInerny discloses only detecting a magnetic pattern from magnetic ink dispersed on the surface of a bill, it would have been obvious to use the same or similar magnetic sensors to sense a magnetic thread within said bill as such a magnetic thread exhibits a particular magnetic pattern. Shigeno discloses using a scanhead having "closely spaced magnetic sensors" so as to

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accurately detect both course and fine magnetic patterns on or within a bill. While McInerny discloses "comparing the locations of two objects" it would still have been obvious to determine the location of the particular magnetic feature, such as a security thread, in relation to other parts of the bill, such as a leading edge. Nonetheless, Applicant's claims only recite determining the location of such a feature, not in relation to the bill itself. Additionally, note, for example, in Claim 7, taken as representative of the other independent claims, that the limitations in line 9, after "magnetic sensors", in line 10, after "the scanhead" and in line 14, after "an evaluating unit" are not positively recited. Instead, adapted use language is used such that McInerny's magnetic scanhead and circuitry are considered to be able to be adapted to such use, therefore meeting Applicant's independent claims when combined with Shigeno.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Moritomo '325, Conant '472 and Lee '851 are cited as examples of bill processing systems that detect magnetic threads and their locations on said bills. Rohrer '615 discloses a magnetic scanhead having multiple magnetic sensors.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey A. Shapiro whose telephone number is (571)272-6943. The examiner can normally be reached on Monday-Friday, 9:00 AM-5:00 PM.

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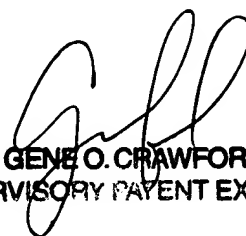
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene O. Crawford can be reached on (571)272-6911. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jeffrey A. Shapiro
Examiner
Art Unit 3653

February 4, 2006



GENE O. CRAWFORD
SUPERVISORY PATENT EXAMINER